

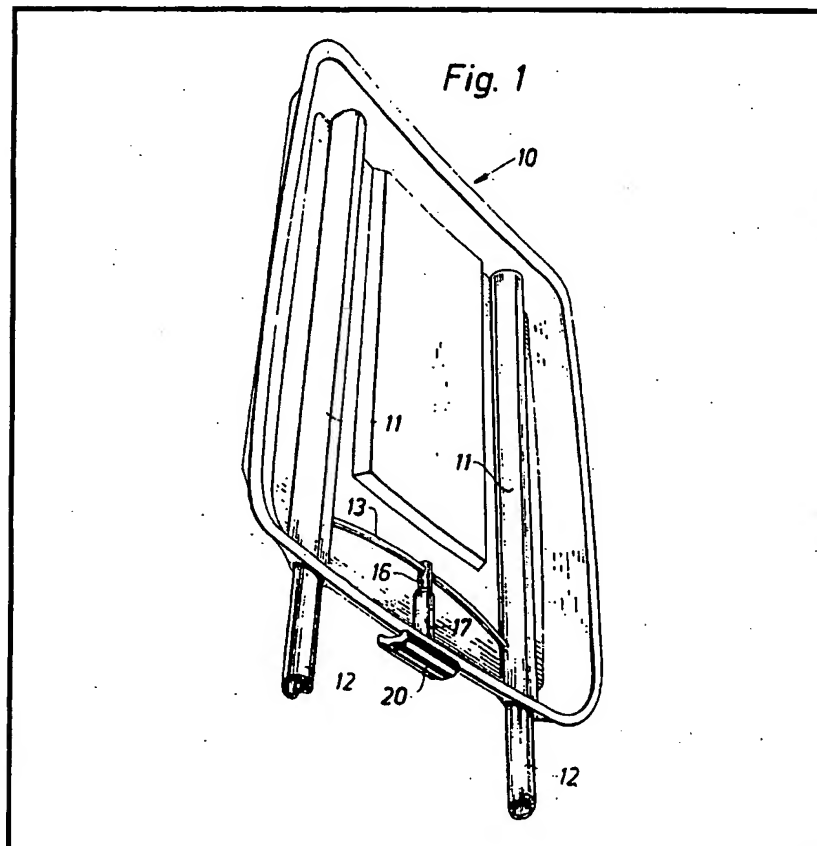
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(71) Applicant  
AB Nordpatent  
Rothoffsvägen 11  
902 44 Umeå  
Sweden  
(72) Inventor  
Lars Bertil Eugén  
Mattsson  
(74) Agents  
S Jones-Robinson

## (54) Locking sliding members

(57) A device for use in or in conjunction with a chair, such as a vehicle chair or an operator's chair, comprises a member (10) displaceably mounted on two parallel guides (12). Said member (10) is displaceably guided along said guides (12) by means of two slide bearing means (11) which are arranged in sliding engagement each with one of said two guides (12). The device further comprises releaseable locking means, formed by a resiliently flexible rod (13) which extends in a slightly curved pre-stressed state between the two slide bearing means (11) and through guide bores therein to rest with its ends under pressure against the two guides (12), in order hereby to lock the displaceable member (10) to the guides (12) through frictional

engagement therewith. At its middle, said rod (13) is connected to a manually operated release means (16) which is mounted for limited movement in the displaceable member (10) and arranged, upon manual actuation thereof, to cause an increased deflection of the rod (13) during increasing stress therein, in order to bring the rod (13) temporarily out of frictional engagement with the guides (12).



GB 2041 439 A

Fig. 1

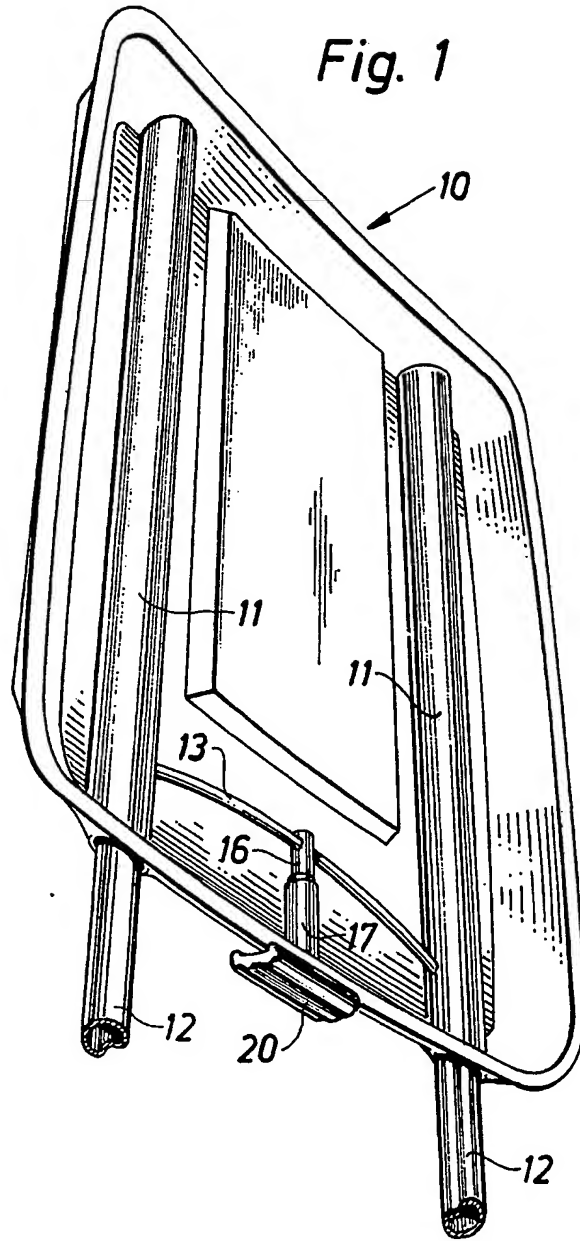


Fig. 3

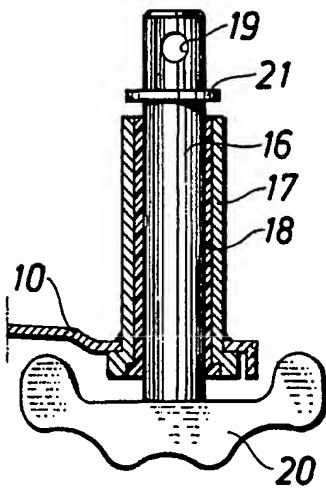
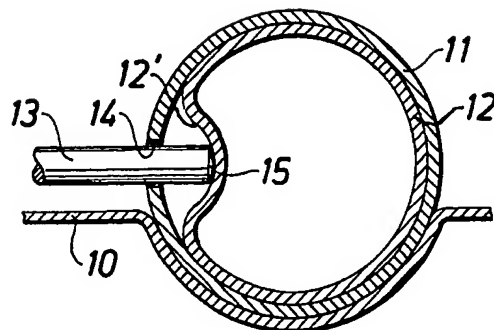


Fig. 2



## SPECIFICATION

**A device for use in or in conjunction with a chair**

5 The present invention relates to a device for use in or in conjunction with a chair, such as a vehicle chair or an operator's chair, said device being of the kind comprising a member, which is displaceably mounted on a supporting means, and locking means for releasably locking said member in an adjustable position on the supporting means. More particularly, the invention relates to a device of said kind, wherein said supporting means comprises two parallel guides which are spaced apart in their transversal direction and along which said member is displaceably guided by means of two slide bearing means connected to said member, and wherein said two slide bearing means are spaced apart in a direction transversal to the direction of movement of the displaceable member and arranged in sliding engagement each with one of said two guides.

25 The displaceable member may for instance consist of the seat or backrest of a chair. However, it may also consist of another portion of a chair or of a portion of an equipment provided in conjunction with a chair.

30 In practice, the locking means utilized in prior art devices of the above kind have been found unfavourable in various respects. Therefore, an object of the present invention is to provide a new and favourable locking means construction for such a device. According to the invention, for this purpose, there is proposed a device of the kind initially specified, wherein the locking means comprise a resiliently flexible rod which extends in a slightly curved pre-stressed state between the two slide bearing means and through guide bores therein to rest with its ends under pressure against the two guides, in order to lock the displaceable member to the guides through frictional engagement therewith, said rod being connected, at its middle, to a manually operated release means which is mounted for limited movement in the displaceable member and arranged, upon manual actuation thereof, to cause an increased deflection of the rod during increased stress therein, in order to bring the rod temporarily out of frictional engagement with the guides.

55 The locking means construction proposed according to the invention results in substantial advantages over the locking means previously utilized in devices of the kind here at issue, both with regard to simplicity in manufacture and in respect of functional properties.

60 According to a preferred embodiment of the invention, the guides may be provided with longitudinally extending grooves into which the end portions of the rod project. The release means may preferably comprise a longi-

tudinally displaceable shaft or rod. Alternatively, the release means may comprise a pivotally mounted arm or lever.

Below the invention will be described in 70 further detail, reference being had, by way of example, to the accompanying drawing, in which

*Figure 1* shows a perspective view of a device according to one embodiment of the 75 invention, while

*Figures 2 and 3* show partial sectional views on an enlarged scale.

In the drawing, reference numeral 10 generally designates a pressed sheet metal member, which is intended to form the base of a backrest of a chair, such as a vehicle chair. Said member 10 is provided with two longitudinally extending tube pieces 11 which are welded to member 10 in spaced apart positions in the transversal direction of said tube pieces. The two tube pieces 11 form sliding sleeves by means of which member 10 is mounted for longitudinal displacement on two parallel tubular guides 12 which, in a direction transversal to their longitudinal direction, are spaced apart a distance corresponding to the distance between the two tube pieces 11. In any suitable manner, not illustrated in the drawing, the two guides 12 are rigidly connected to each other to form integral portions of a supporting means for member 10.

In order to make it possible to lock member 10 releasably in an adjustable position on guides 12, the device is provided with a 100 locking means formed by a resiliently flexible rod 13 which is mounted in a slightly curved and pre-stressed state between the two tube pieces 11. At its ends, rod 13 extends through guide bores 14 in the two tube pieces 11. The length of rod 13 is selected so as to make sure that the rod may rest with its end surfaces 15 under pressure against guides 12 to maintain the displaceable member 10 in adjusted position on guides 12 through 105 frictional engagement with the guides.

As best can be seen from Fig. 2, in their sides facing each other, the two guides 12 are provided with grooves 12' formed by longitudinally extending depressions into which the end portions of rod 13 project. The purpose of grooves 12' is, inter alia, to prevent any burrs on guides 12 caused by rod 13 to give reason to an increased friction between the cooperating bearing surfaces of the guides 120 and tube pieces 11.

In order to make it possible, temporarily to bring rod 13 out of frictional engagement with guides 12, when member 10 is to be moved along the guides, a manually operable 125 release means is provided, by which a limited increased deflection may be imparted to rod 13 while simultaneously increasing its inherent spring-bias or stress. In the illustrated embodiment, said release means consists of a 130 short shaft or bar 16 which, as best can be

seen from Fig. 3, is displaceably mounted in a guide sleeve 17 secured to member 10 and containing a bearing bushing 18. Shaft 16 extends generally parallel to the two tube pieces 11 and is located right between said two tube pieces. At its upper end, bar 16 is provided with a through bore 19, through which the resiliently flexible rod 13 extends. At its lower end, bar 16 is provided with a handle 20 by which bar 16 and hence, also the middle portion of rod 13 may be pushed resiliently in an upward direction against the action of the pre-stress in rod 13. Below bore 19 and at a short distance therefrom, bar 16 is provided with a locking ring 21 which is received in a circumferential groove in the bar and serves to limit the mobility of bar 16 in a downward direction.

The invention is not restricted to the embodiment above described and shown in the drawing. Instead, the device may be modified in several respects within the scope of the invention. For instance, the release means need not be formed by a displaceable shaft or bar. Instead, it may be formed by a pivotally mounted arm or lever permitting a reduction of the required manual force to be applied on the operating handle of the release means for bringing rod 13 out of frictional engagement with guides 12. Finally, if desired, rod 13 may be provided with suitable friction blocks or ferrules at its ends.

#### CLAIMS

1. A device for use in or in conjunction with a chair, such as a vehicle chair or an operator's chair, said device being of the kind comprising a member, which is displaceably mounted on a supporting means, and locking means for releasably locking said member in an adjustable position on the supporting means, said supporting means comprising two parallel guides which are spaced apart in their transversal direction and along which said member is displaceably guided by means of two slide bearing means connected to said member, said two slide bearing means being spaced apart in a direction transversal to the direction of movement of the displaceable member and arranged in sliding engagement each with one of said two guides, characterized in that said locking means comprise a resiliently flexible rod which extends in a slightly curved pre-stressed state between the two bearing means and through guide bores therein to rest with its ends under pressure against the two guides, in order to lock the displaceable member to the guides through frictional engagement therewith, said rod being connected, at its middle, to a manually operated release means which is mounted for limited movement in the displaceable member and arranged, upon manual actuation thereof, to cause an increased deflection of the rod during increased stress therein, in order to

bring the rod temporarily out of frictional engagement with the guides.

2. A device according to claim 1, characterized in that the guides are provided with longitudinally extending grooves into which the end portions of the rod project.

3. A device according to claim 1 or 2, characterized in that the release means comprises a longitudinally displaceable shaft.

4. A device according to claim 1 or 2, characterized in that the release means comprises a pivotally mounted arm or lever.

5. A device for use in or in conjunction with a chair, constructed and arranged substantially as herein particularly described with reference to the accompanying drawings.

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